Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-07-06-21** **Date: 14-03-2019**
Customer	:	Assistant Executive Engineer, Project Sub Division, BBMP, Bangalore.
Address	:	Project Sub Division, BBMP, Bangalore.
Project Name	:	Providing CC Camera and Improvements to SWM in Ward No.03.
Agency	:	Sri.Charan N S, No.186, 9th Cross, CIL Layout, Cholanayakanahalli, RT Nagar, Bangalore-32.
Customer's Reference	:	EE(Project)/Ynk Zone/WO/104/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	11-03-2019
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	12-03-2019
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.15%	–
2	Finess by Air permeablity method (m^2/kg,Min)	281.3	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	165 minutes	Not less than 30 minutes
6	Final Setting time	295 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.0mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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Samples will be disposed after 90 days from the date of issue of test certificate

FOR CIVIL Pro.

Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL PRO BANGALORE Sig..... Date.....

****End of Report****

Format No: CP/TE/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2019-07-06-21** **Date: 09-04-2019**
Customer	:	Assistant Executive Engineer, Project Sub Division, BBMP, Bangalore.
Address	:	Project Sub Division, BBMP, Bangalore.
Project Name	:	Providing CC Camera and Improvements to SWM in Ward No.03.
Agency	:	Sri.Charan N S, No.186, 9th Cross, CIL Layout, Cholanayakanahalli, RT Nagar, Bangalore-32.
Customer's Reference	:	EE(Project)/Ynk Zone/WO/104/18-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	11-03-2019
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	12-03-2019
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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Format No: CP/TR/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-07-06-21** **Date: 14-03-2019**
Customer	:	Assistant Executive Engineer, Project Sub Division, BBMP, Bangalore.
Address	:	Project Sub Division, BBMP, Bangalore.
Project Name	:	Providing CC Camera and Improvements to SWM in Ward No.03.
Agency	:	Sri.Charan N S, No.186, 9th Cross, CIL Layout, Cholanayakanahalli, RT Nagar, Bangalore-32.
Customer's Reference	:	EE(Project)/Ynk Zone/WO/104/18-19
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	11-03-2019
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	11-03-2019

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	1215	1215	8.1	91.9	90-100
3	20 mm	5320	6535	43.6	56.4	30-70
4	10 mm	6255	12790	85.3	14.7	10-35
5	4.75 mm	1637	14427	96.2	3.8	0-5
6	Pan	573	15000	100.0	0	---

Asst. Executive Engineer
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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-07-06-21** **Date: 14-03-2019**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.3	
3	Specific Gravity	2.66	_
4	Bulk Density(Loose) (Kg/l)	1.49	_
5	Bulk Density(Compacted) (Kg/l)	1.52	_
6	Water Absorption(%)	0.21	_

Note:

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Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2019-07-06-21**	**Date: 13-03-2019**
Customer	:	Assistant Executive Engineer, Project Sub Division, BBMP, Bangalore.	
Address	:	Project Sub Division, BBMP, Bangalore.	
Project Name	:	Providing CC Camera and Improvements to SWM in Ward No.03.	
Agency	:	Sri.Charan N S, No.186, 9th Cross, CIL Layout, Cholanayakanahalli, RT Nagar, Bangalore-32.	
Customer Reference	:	EE(Project)/Ynk Zone/WO/104/18-19	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	11-03-2019	
Sample Type/ Size	:	20mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	11-03-2019	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	225	225	4.5	95.5	90-100
3	10 mm	2845	3070	61.4	38.6	25-55
4	4.75 mm	1745	4815	96.3	3.7	0-10
5	Pan	185	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2019-07-06-21** **Date: 13-03-2019**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	**13.2**	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	**10.1**	
3	Specific Gravity	**2.68**	_
4	Bulk Density(Loose) (Kg/l)	**1.43**	_
5	Bulk Density(Compacted) (Kg/l)	**1.49**	_
6	Water Absorption(%)	**0.23**	_
7	Aggregate crushing Value(%)	**22.9**	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	**23.7**	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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Authorized Signature
Quality Manager

Asst. Executive Engineer
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Yelahanka Zone
Bangalore

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-07-06-21** **Date: 13-03-2019**

Customer : Assistant Executive Engineer, Project Sub Division, BBMP, Bangalore.

Address : Project Sub Division, BBMP, Bangalore.

Project Name : Providing CC Camera and Improvements to SWM in Ward No.03.

Agency : Sri.Charan N S, No.186, 9th Cross, CIL Layout, Cholanayakanahalli, RT Nagar, Bangalore-32.

Customer's Reference : EE(Project)/Ynk Zone/WO/104/18-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 11-03-2019

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 11-03-2019

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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Yelahanka Zone
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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2019-07-06-21** **Date: 13-03-2019**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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